查询5962F9861301QCC供应商

Data Sheet May 1999 File Number 3573.2

Radiation Hardened Quad Voltage Comparator

The Radiation Hardened HS-139RH consists of four independent single or dual supply voltage comparators on a single monolithic substrate. The common mode input voltage range includes ground, even when operated from a single supply, and the low supply current makes these comparators suitable for low power applications. These types were designed to directly interface with TTL and CMOS.

The HS-139RH is fabricated on our dielectrically isolated Rad Hard Silicon Gate (RSG) process, which provides an immunity to Single Event Latch-up and the capability of highly reliable performance in any radiation environment.

Specifications for Rad Hard QML devices are controlled by the Defense Supply Center in Columbus (DSCC). The SMD numbers listed below must be used when ordering.

Detailed Electrical Specifications for the HS-139RH are contained in SMD 5962-98613. A "hot-link" is provided on our homepage with instructions for downloading. www.intersil.com/spacedefense/newsafclasst.asp

Ordering Information

ORDERING NUMBER	INTERNAL MKT. NUMBER	TEMP. RANGE (^{o}C)
5962F9861301VCC	HS1-139RH-Q	-55 to 125
5962F9861301QCC	HS1-139RH-8	-55 to 125
HS1-139RH/Proto	HS1-139RH/Proto	-55 to 125
5962F9861301VXC	HS9-139RH-Q	-55 to 125
5962F9861301QXC	HS9-139RH-8	-55 to 125
HS9-139RH/Proto	HS9-139RH/Proto	-55 to 125

Features

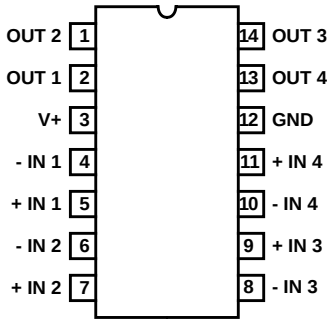
- QML Qualified Per MIL-PRF-38535 Requirements
- Radiation Environment
  - Latch-up Free Under any Conditions
  - Total Dose (Max). . . . . 3 x 10^5 RAD(Si)
  - SEU LET Threshold . . . . . 20MeV/cm^2/mg
  - Low Dose Rate Effects Immunity
- 100V Output Voltage Withstand Capability
- ESD Protection to >3000V
- Differential Input Voltage Range Equal to the Supply Voltage
- Input Offset Voltage (V_{IO}). . . . . 2mV (Max)
- Quiescent Supply Current . . . . . 2mA (Max)

Applications

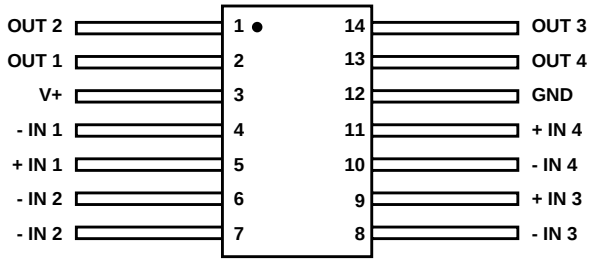
- Pulse Generators
- Timing Circuitry
- Level Shifting
- Analog to Digital Conversion

Pinouts

HS-139RH (SBDIP CDIP2-T14)
TOP VIEW



HS-139RH (FLATPACK CDFP3-F14)
TOP VIEW



CAUTION: These devices are sensitive to electrostatic discharge; follow proper IC Handling Procedures.
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Die Characteristics

DIE DIMENSIONS:

3750µm x 2820µm (148 mils x 111 mils)
483µm ± 25.4µm (19 mils ± 1 mil)

INTERFACE MATERIALS:

Glassivation:

Type: Silox (SiO_2)
Thickness: 8.0kÅ ± 1.0kÅ

Top Metallization:

Type: AlSiCu
Thickness: 16.0kÅ ± 2kÅ

Substrate:

Radiation Hardened Silicon Gate, Dielectric Isolation

Backside Finish:

Silicon

ASSEMBLY RELATED INFORMATION:

Substrate Potential:

Unbiased (DI)

ADDITIONAL INFORMATION:

Worst Case Current Density:

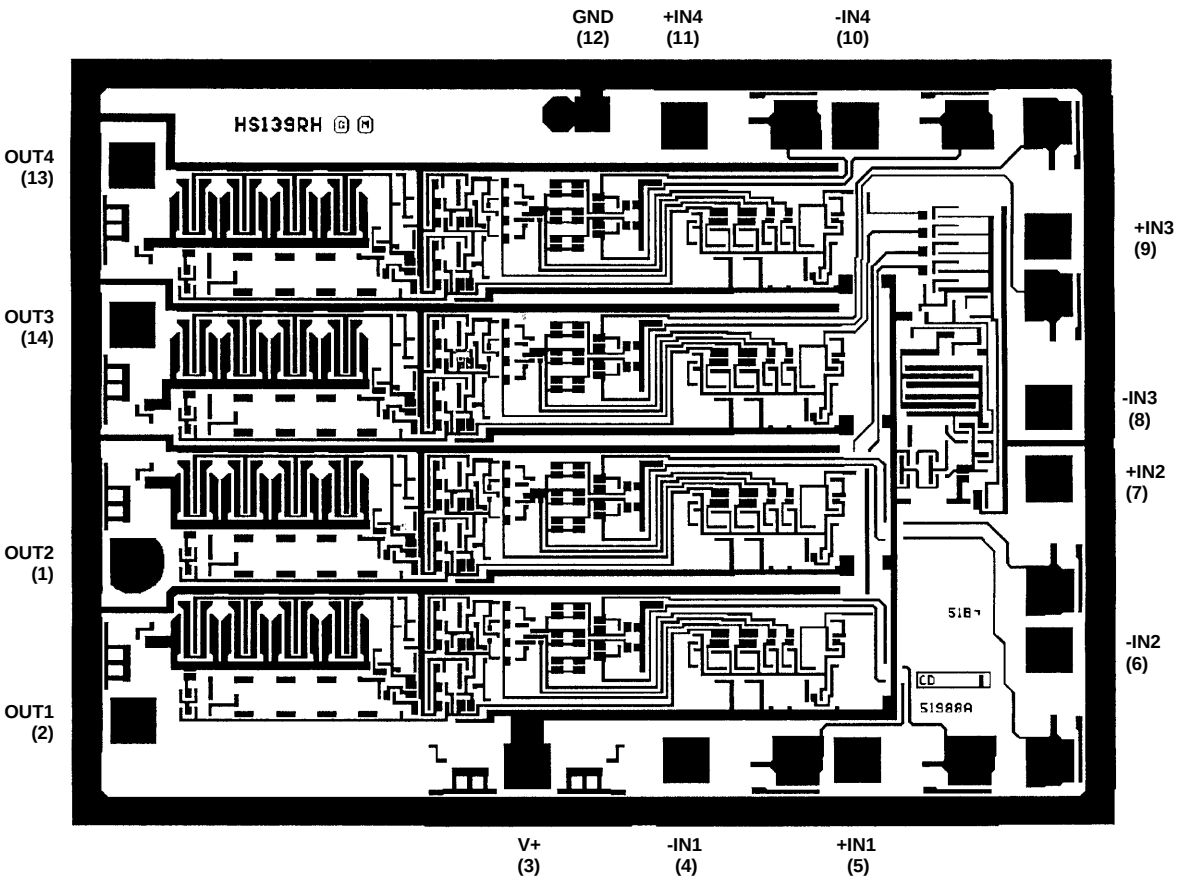
$<2.0 \times 10^5$ A/cm^2

Transistor Count:

49

Metallization Mask Layout

HS-139RH



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